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Periodical Cicadas Are Coming in May!

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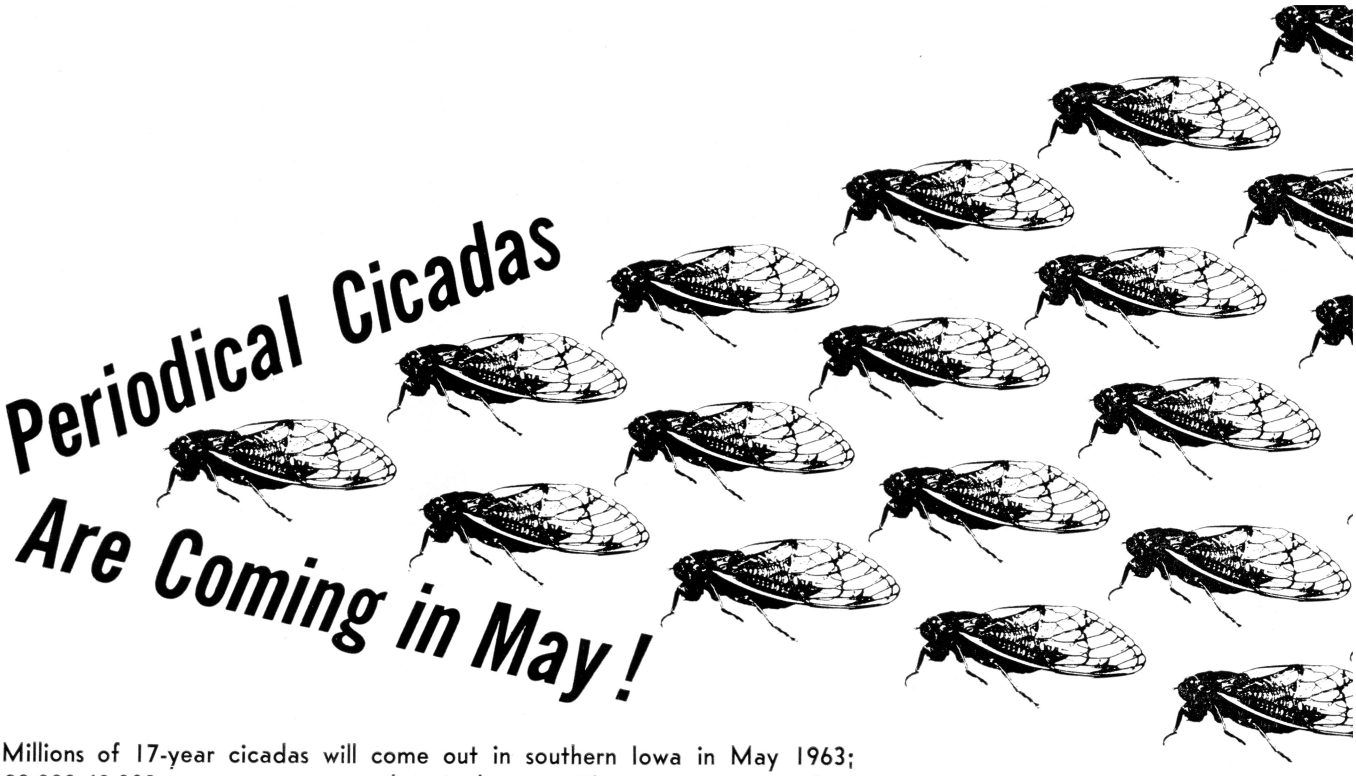

Millions of 17-year cicadas will come out in southern Iowa in May 1963; 20,000-40,000 may emerge around a single tree. They won't sting or bite humans and animals or do much damage, but they will make a lot of noise.

by Harold Gunderson and W. S. Craig

WHAT ARE these strange skeletons that are stuck on walls, tree trunks and shrubs? What are the "flies" that are so thick in the trees and make that horrible buzzing? Will they bite?

Those are questions from letters and phone calls that flooded entomologists at Iowa State 17 years ago. Many Iowans will be asking similar questions this year. Starting in May, 1963 will be "The Year of the Locust" in the southern half of Iowa.

Vast numbers of the 17-year periodical cicada—sometimes called the 17-year locust—will emerge in the counties that are shaded in map 1. To help you understand and appreciate this rare creature found only in North America, here, in advance, are answers to some of the questions you'll be asking.

The Insect . . .

There are two races of periodical cicadas. One race requires 13 years for its development; the other requires 17 years. Thus, cicadas appear only at 13- or 17-year intervals—when their growth cycle is complete. Different broods of each race have emerged between 1946 and 1963, but each brood has spent 13 or 17 years underground between appearances. So don't confuse the *periodical* cicada with the annual cicada that emerges in late July and August every year.

The "skeletons" people ask about are the cast skins, or exoskeletons, of the mature nymphs from which adult cicadas have emerged (*photos 1 and 2*). The adults (*photo 3*) are strong fliers and congregate in trees. They live for 4-5 weeks and feed by sucking sap from tree branches and twigs.

The "buzz" is produced by an inflatable membrane or drum on each side of the abdomen of the males. Scientists at the University of Michigan have used tape recorders to demonstrate distinct differences in the songs of different races. These researchers believe that there are three species of the 17-year cicada and three species of the 13-year cicada—each recognizable primarily by song differences. (For more information about this work see "The evolutionary relationship of 17-year and 13-year cicadas and three new species" by R. D. Alexander and T. E. Moore. Misc. Publ. 121, Museum of Zoology, University of Michigan, Ann Arbor.)

Life Cycle: The parents of the brood appearing this year began mating during the first week of June 1946. The females then selected young branches of fruit and shade trees as places to lay their eggs. Each female gouged a slit about ½ inch long through the tender bark and laid 12-28 eggs in this pocket (*photo 4*). She repeated this procedure along the branch until 5-20 pockets were made in the twig. Thus, each female laid from 400 to 600 eggs—if she survived and escaped birds and other predators.

The eggs hatched in 6-7 weeks, and little, white, awkward-looking nymphs tumbled to the ground. Their front legs were shaped for digging (*photo 5*), and they immediately burrowed 6 to 24 inches into the soil around the "parent" tree until they found a root. Here they settled down to spend the next 17 years sucking sap from the root — occasionally stopping to rest, molt and form a new exoskeleton.

In April 1963, the nymphs are

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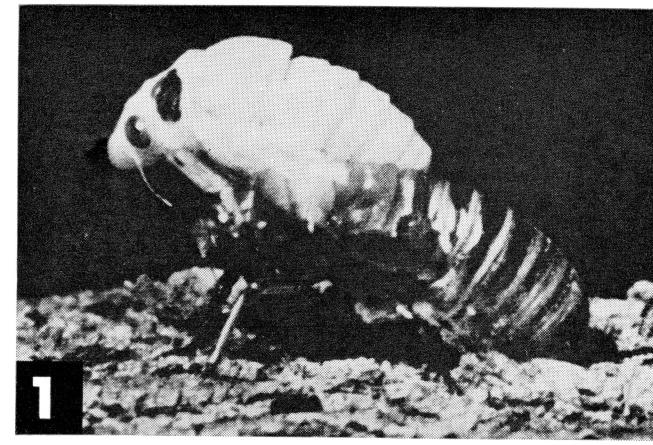
KEYS TO PHOTOS

1. Adult cicada emerging from exoskeleton.
2. Cicada newly emerged from exoskeleton.
3. Adult periodical cicada.
4. Periodical cicada eggs, greatly enlarged.
5. Close-up of front legs of cicada nymph.
6. Cicada nymphs burrowing to soil surface.
7. Cicada nymph emerging from the soil.
8. Exoskeleton splitting for adult emergence.
9. Mass of cicada nymphs around a tree trunk.



full-grown, hump-backed and about 1 inch long. After 17 years underground, they instinctively begin burrowing upward through the soil (*photo 6*). They stop about 1 inch below the surface and wait for a mysterious signal.

On the right night, the nymphs emerge from the soil (*photo 7*) and crawl up a rough wall, the trunk of a tree, a weed or a shrub. They fasten their claws firmly into the rough surface, the exoskeleton splits down the middle of the insect's back (*photo 8*) and the adult cicada emerges into a world that may have changed a great deal in 17 years.

Perhaps a city subdivision has arisen on the wooded slope of 1946, and many of the trees then present have been removed, killing the cicada nymphs on the tree roots. However, in a park, orchard, woodlot, timber pasture or grove—where the trees haven't been d i s t u r b e d—our newly-emerged cicada of 1963 sees the s a m e surroundings and goes through the same instinctive acts as its ancestors have every 17 years for thousands of years.

What They Do: Periodical cicadas arouse interest because of the sudden appearance of so many insects at one time—20,000-40,000 may emerge around one tree! (*photo 9*) Cicadas do little damage in feeding, either as a nymph or an adult. They *don't* sting or bite humans or animals. They do make a lot of noise. And the punctures for the eggs do some damage to young fruit and shade trees.

Control . . .

You may want to control periodical cicadas or at least to reduce their numbers even though they do little damage. Sevin, a chemical unknown 17 years ago, gives fairly good control. Mix 2 pounds of 50-percent Sevin wettable powder per 100 gallons of water. Spray *valuable* trees in areas where cicadas are numerous about June 5 or as soon as egg laying starts. One application controls cicadas for 5-6 days. If cicada numbers build up again, make a second application June 10-12.

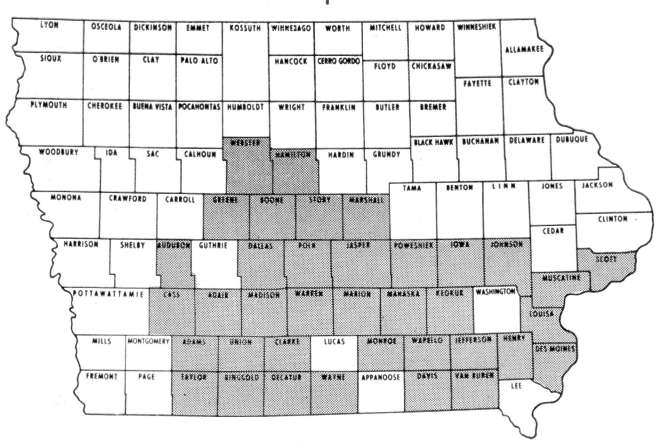
We Need Your Help . . .

The shaded areas in map 1 show the counties in which periodical cicadas of the brood that will emerge this year have been collected. We assume that their range is extended each time a brood emerges, since the adults are robust fliers. But it's possible that no one has collected cicadas in the unshaded counties during a particular emergence period.

If you live in a county that isn't shaded in map 1 and you hear cicadas singing in June this year, please collect some of the insects for us or mail us a card indicating that you heard them. We'd like to increase our own knowledge of this amazing insect.

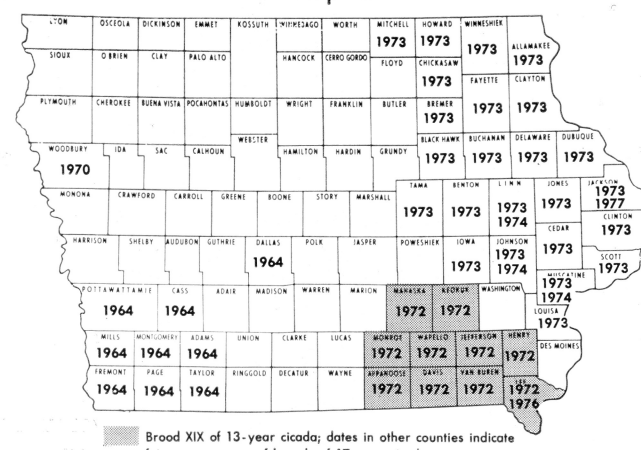
Map 2 shows the counties and years in which the next known broods of periodical cicadas in Iowa will emerge.

Map 1.

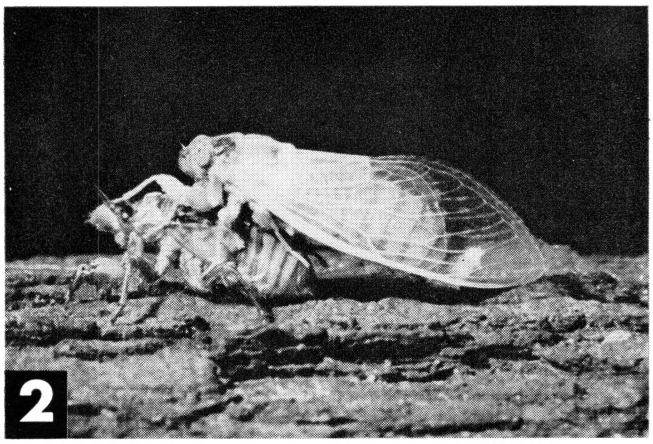


Brood III of 17-year cicada, emergence in 1963.

Map 2.



Brood XIX of 13-year cicada; dates in other counties indicate future emergence of broods of 17-year cicadas.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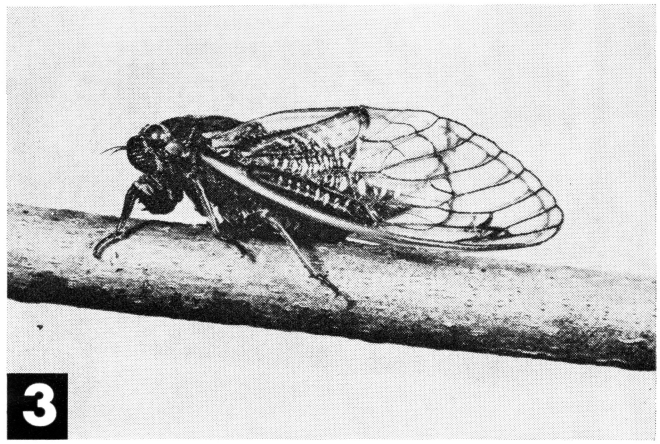
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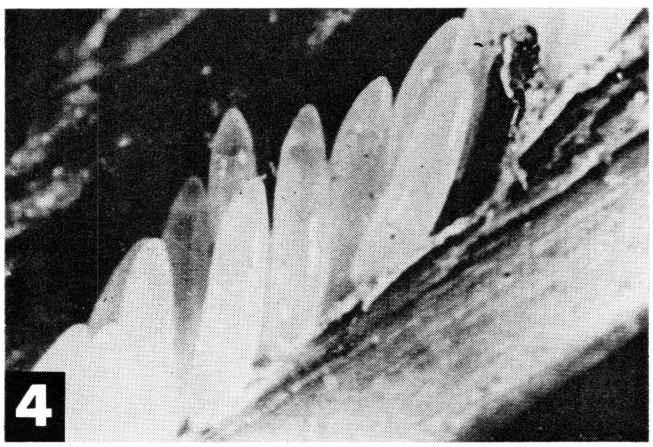
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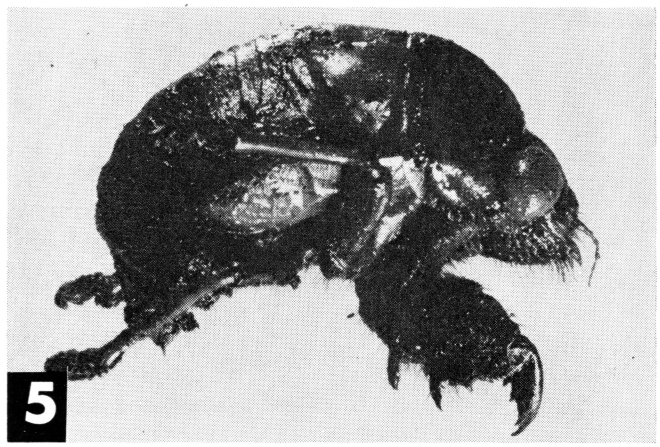
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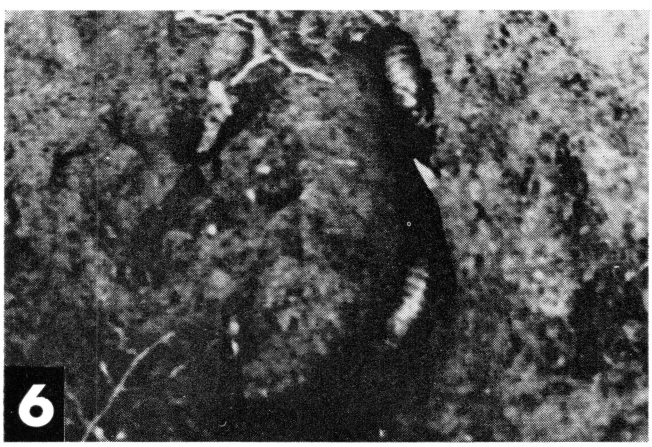
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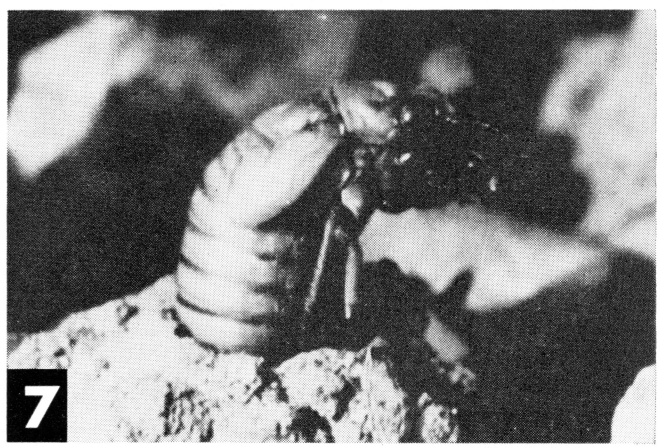
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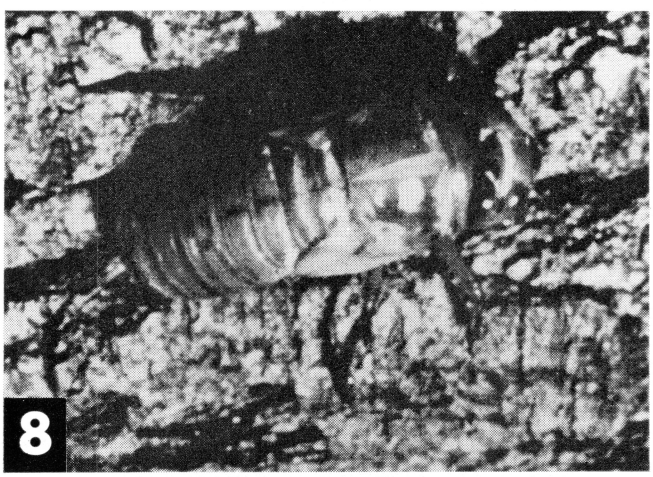
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